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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,669	03/29/2006	Jean-Claude Padoy	NITROS P178US	4314
20210 7590 10/09/2008 DAVIS BUJOLD & Daniels, P.L.L.C. 112 PLEASANT STREET CONCORD, NH 03301				
EXAMINER				
GOFF II, JOHN L				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
10/09/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,669

Applicant(s)

PADOY, JEAN-CLAUDE

Examiner

John L. Goff

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 15-28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 29 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 3/29/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15, 18, 19, 23, 24, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basque (U.S. Patent Application Publication 2002/0117248) in view of Witek et al. (U.S. Patent 4,398,982) or Groundwater (U.S. Patent 3,846,210).

Basque discloses a method of heat sealing at least one synthetic film of thermoplastic material onto a container using first and second thermal electrodes comprising heating the first and second electrodes which comprise a heating bar, an integrated resistor element and a thermocouple, stabilizing the first and second thermal electrodes and regulating the temperature difference between the first and second thermal electrodes by controlling the heating using a controller and the thermocouples, and pressing the first and second thermal electrodes via a controlled mechanism to heat seal the thermoplastic materials by melting (Figure 6 and Paragraphs 0002, 0025, 0026, 0031, 0034, and 0040).

It is noted use of the controller and thermocouples as taught by Basque ultimately control the heat flux and as such Basque is considered to include means that stabilize "by controlling a variation in a heat flux emitted by the first thermal electrode" and regulate "by controlling a heat flux flowing between the first thermal electrode and the heat flux resulting from temperature

disequilibrium existing between the first thermal electrode and the second thermal electrode and variation in thermal resistance corresponding to a physical state of the synthetic plastic material”.

It is noted use of the controlled pressing mechanism as taught by Basque is considered to include means to regulate the pressure exerted on the synthetic thermoplastic material “by controlling instantaneous variation in heat flux resulting from a thermal energy absorbed by melting of the synthetic thermoplastic material”.

Basque is silent as to including a regulating device for cooling the synthetic thermoplastic material. It is extremely well known in the art of heat sealing using first and second electrodes that at least one of the first and second thermal electrodes includes a cooling channel for rapidly cooling the heat sealed materials as evidenced by Witek (Column 6, line 5) or Groundwater (Column 3, lines 52-59 and Column 4, lines 36-45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Basque to include a well known cooling channel in at least one of the first and second thermal electrodes as evidenced by Witek or Groundwater to rapidly cool the heat sealed thermoplastic materials.

It is noted use of a cooling channel as taught by Basque as modified by Witek or Groundwater is considered means to regulate cooling of the synthetic thermoplastic material “by controlling the instantaneous variation in the heat flux resulting from a thermal energy restored by the synthetic thermoplastic material when it crystallizes” and “by chilling at least one of the first and second thermal electrodes”.

Regarding claim 26, Basque teaches at least one of the first and second thermal electrodes is attached to a flexible block (Paragraphs 0027 or 0035).

3. Claims 15, 16, 18-21, 23-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basque and Witek or Groundwater as applied to claims 15, 18, 19, 23, 24, 26, and 28 above, and further in view of Terrell (U.S. Patent 5,990,412).

Regarding claims 16, 20, and 21, Basque and Witek or Groundwater as applied above teach all of the limitations in the claims except for a specific teaching of the first and second thermal electrodes including a heat flux sensor in addition to the thermocouple. It is additionally noted that claims 15, 18, 19, 23, 24, 26, and 28 are rejected in the event it is shown at least one heat flux sensor is required to meet any of the limitations in the claims. It is well taken in the art of using a thermocouple that in addition to the thermocouple a heat flux sensor is provided such that drift or failure of the thermocouple is detected as evidenced by Terrell (Column 1, lines 21-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in the first and second thermal electrodes taught by Basque as modified by Witek or Groundwater a heat flux sensor in addition to the thermocouple such that the controller can be used to detect drift or failure of either sensor and more specifically the thermocouple as was known in the art as evidenced by Terrell.

It is noted use of the controller considered a thermofluximetric regulator in combination with the heating element, thermocouples, and heat flux sensors as taught by Basque as modified by Witek or Groundwater and Terrell ultimately control the heat flux and as such the references are considered to include means that stabilize "at least the first thermal electrode (80) by controlling the variation in heat flux emitted by the electrode comprises a heat flux sensor (82) and a thermofluximetric regulator (86) associated with the first thermal electrode" and regulating "by controlling the heat flux flowing between the first and the second electrode,

the heat flux resulting from the temperature disequilibrium between the first and the second electrodes and the variation in thermal resistance corresponding to the physical state of the synthetic thermoplastic material comprises at least one heat flux sensor associated with each of the first and second thermal electrodes and a thermofluximetric regulator connected to the heat flux sensors and the first and second electrodes”.

Regarding claim 25, the sensors as taught by Basque as modified by Witerski or Groundwater and Terrell are placed in the first and second thermal electrodes as provided on a thermal capacitor (Column 3, lines 22-25).

4. Claims 17, 22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basque and Witerski or Groundwater as applied to claims 15, 18, 19, 23, 24, 26, and 28 above (or Basque and Witerski or Groundwater and Terrell as applied to claims 15, 16, 18-21, 23-26, and 28 above), and further in view of Hsu (U.S. Patent 4,529,472) or Boeckmann (U.S. Patent 5,015,223).

Basque and Witerski or Groundwater (and Terrell) as applied above teach all of the limitations in claims 17 and 22 except for a specific teaching of the controlled pressure mechanism comprising a cylinder, it being noted Basque is not limited to any particular mechanism. It is extremely well known in the art of heat sealing to press the first and second electrodes using a pneumatic cylinder as evidenced by Hsu (Column 2, line 57) or Boeckmann (Column 2, lines 48-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the pressure mechanism in Basque as modified by Witerski or Groundwater (and Terrell) a known suitable mechanism such as a pneumatic cylinder as evidenced by Hsu or Boeckmann.

5. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basque and Witekiski or Groundwater as applied to claims 15, 18, 19, 23, 24, 26, and 28 above (or Basque and Witekiski or Groundwater and Terrell as applied to claims 15, 16, 18-21, 23-26, and 28 above), and optionally further in view of Hsu.

Basque teaches the first and second thermal electrodes are attached to a support on the heat sealing device via a flexible block, it being noted that because applicant has not defined the term "flexible" to any degree the insulating block taught by Basque is considered intrinsically flexible to some degree. Basque appears to also meet the limitation that the electrodes are "housed" in the flexible blocks. In the event it is shown that the electrodes are not necessarily "housed" in the flexible blocks the following rejection would apply. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the electrodes attached to the flexible blocks which are attached to supports as taught by Basque as modified by Witekiski or Groundwater (and Terrell) as "housed" in the flexible blocks as such was known in the art as optionally shown by Hsu (4 of Figure 1) only the expected results being achieved.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is (571)272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791